

5 semiconductor die having a first area and a second area, the first area
6 having a higher temperature than the second area, the thermal sensor
7 positioned proximate the first area; and
8 sense circuitry coupled to provide an output signal in response to the
9 temperature signal, the sense circuitry providing the output signal when
10 the temperature signal is in a predetermined relationship with a reference
11 signal.

38
1 21. (New) An apparatus for providing an indicator signal in response to a
2 temperature of an integrated circuit, the apparatus being integrated within
3 the integrated circuit and comprising:
4 a register that stores a value corresponding to a threshold
5 temperature;
6 a thermal sensor that generates a temperature signal related to the
7 temperature in accordance with the value;
8 a sense circuit coupled to the thermal sensor, the sense circuit
9 providing the indicator signal when the temperature signal indicates that
10 the temperature exceeds the threshold temperature.

39
1 22. (New) An integrated circuit apparatus for providing a control signal
2 in response to a temperature of the integrated circuit, comprising:
3 a current source providing a current;
4 a voltage reference circuit coupled to the current source to provide a
5 reference voltage, the voltage reference circuit cooperating with the current
6 source to maintain the reference voltage substantially independent of the
7 temperature;
8 a thermal sensor coupled to the current source to provide a
9 temperature signal in accordance with a programmable impedance, the
10 temperature signal corresponding to the temperature;
11 a sense circuit coupled to receive the reference voltage and the
12 temperature signal, the sense circuit providing the control signal when the
13 temperature signal exceeds the reference voltage.